SPECIAL REPORT ›
CLIMATE CHANGE

A truly global risk

A refusal to grasp the magnitude of the environmental challenge could cost reputations and even render business models obsolete. COVID-19 has been all-consuming, but could it now lead to a valuable perspective shift when it comes to climate change?

IN PARTNERSHIP WITH airmic FM Global Swiss Re Corporate Solutions

Momentum behind climate change has been gathering over the past two years and now, a global pandemic is likely to accelerate action in a number of areas. Changing market sentiment, driven by movements such as Schools Strike for Climate and Extinction Rebellion, is putting pressure on business and policymakers around the world.

In June, teen activist Greta Thunberg urged governments to treat climate change with a similar urgency to coronavirus and said the pandemic has proved the world can "act with necessary force".

Growing awareness of extreme weather and natural perils, and how they impact business and supply chains, is also driving attention to the physical effects of climate change. It is widely acknowledged that weather will become more extreme in the future and some natural perils – such as hurricanes, wildfires and floods – could become more intense. Attribution studies are beginning to assign a climate change footprint to some natural peril events.

In some industry sectors, reporting requirements around climate change are influencing how organisations – and their boards – think about the risks and opportunities arising from the 'existential crisis' of our age. Anticipation of climate taxes and other levies are additional powerful incentives. And in the future it may become more challenging to secure commercial insurance coverage if action on climate change is not taken.

"We have specific policies around what we will underwrite depending on whether the end client's operations are sustainable or not," explains Nigel Bamber, head of customer, UK, Swiss Re Corporate Solutions.

"I speak to some of the large mining and oil companies and our policy around that affects how they are seeing the world. Our stance and that of other re/insurers does actually shape their mindset and helps them on the transition they need to go through."

A MULTI-FACETED CHALLENGE

The need to preserve reputation and brand is also shaping the approach to investment portfolios and how companies adapt their business models in order to be seen as better and more resilient corporate citizens. As economies decarbonise, climate change impacts businesses both directly and indirectly, according to Adriano Lanzilotto, vice-president and client service manager at FM Global, and risk managers need to appreciate the complexity and multi-facets of the challenge.

"The first thing you consider when you think about climate change is the weather-related risks, because they are the most apparent and immediately recognisable. In recent years, we have seen some hurricanes causing major damage to Puerto Rico and southern parts of the US, for example. If you have a plant in an at-risk location, you could lose the property and the operations and revenues generated by the business unless you invest in a resilient building structure."

Poor decision-making can also pose an issue. "If you think about where companies expand, they typically expand into emerging markets where the cost of production is lower. But incidentally, many emerging markets are also the ones that present more natural hazards exposures," says Lanzilotto.

"Say you were planning to grow in a region that is hit by a major natural catastrophe. The growth you were hoping to achieve is now not going to happen. As you've diverted management attention to the restoration of those plants the company incurs an opportunity cost, and you could lose investor confidence. So your share price can go down following a catastrophe like that."

From a risk management perspective, climate and sustainability risk are high on the risk register. For the first time in this year's WEF Global Risks report, the top five global risks in terms of likelihood were all environmental. The report sounded the alarm on these issues:

- Extreme weather events
- Failure of climate change mitigation and adaptation by governments and businesses
- Human-made environmental damage and disasters
- Major biodiversity loss and ecosystem collapse
- Major natural disasters

As is the case with all macro trends, these risks are interlinked with dependencies that are not yet fully appreciated. In the future, climate change is likely to stress ecosystems, exacerbate resource scarcity (as population growth continues), cause greater migration and enhance geopolitical tensions, warns WEF.

LEARNING FROM COVID

It is perhaps too soon to fully appreciate how the COVID crisis will influence the climate agenda, but it seems clear that it will. "In many ways, climate change has been treated in a similar way to pandemics," says Scott Feltham, group insurance manager at

With necessary force: Internationally renowned climate change activist Greta Thunberg entreats governments worldwide to take the issue as seriously as they have the coronavirus pandemic.

Compass Group. "In terms of how resilient we are to climate change, and the extent to which we have tested that resilience. And a bit like with pandemics, the assumption has been that there have been bigger fish to fry."

"COVID took us by surprise; the speed it came about," he continues. "That will put the wind up people. What COVID-19 has indicated is these things can come about and they can catch us unaware, and we need to do what we can now as corporates to make sure we are resilient to some of these key risks that will become further accelerated because of climate change."

"If nothing else, going forward shareholders will expect us to become more accountable in terms of having a robust strategy in place – a risk management strategy that responds to climate change," adds Feltham. "That's going to be at the forefront of the board's mind going forward. I've spoken to peers of mine and a lot of them share these views."

But while the COVID-19 pandemic was a rapidly unfolding crisis that governments, business and society could not ignore, climate change is a more insidious threat.

"For a number of years, pandemic was on the WEF Global Risk report, but it tended to be on the report in terms of impact rather than probability, because it was considered so unlikely," says Julia Graham, deputy CEO and technical director of Airmic. "And when organisations and governments create risk registers, risk severity is a function of the two: impact and probability. So it was no surprise that it disappeared off risk registers."

"In 2020, for the first time, climate change took the top five positions on the WEF risk register. And that is because it is both high impact and high probability. All these risks that were there before COVID-19 haven't disappeared. And therefore I think it will come back into the profile because it isn't going to go away without man taking some material actions."

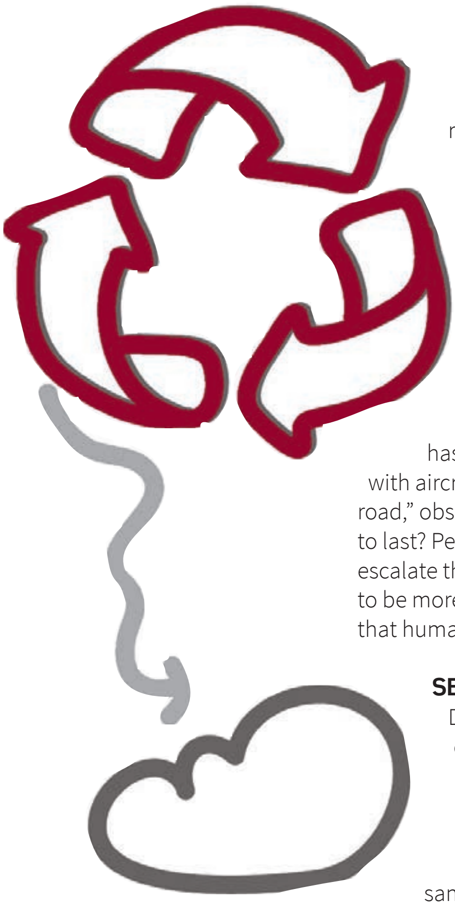
"IN 2020, FOR THE FIRST TIME, CLIMATE CHANGE TOOK THE TOP FIVE POSITIONS ON THE WEF RISK REGISTER. AND THAT IS BECAUSE IT IS BOTH HIGH IMPACT AND HIGH PROBABILITY."

Deputy CEO and technical director, Airmic
Julia Graham

The ways in which companies will take action to address and prepare for climate change, and the speed with which this will happen could actually be accelerated due to the pandemic. According to Martin Bertogg, head of catastrophe perils at the Swiss Re Institute: "As we discovered with COVID-19, climate change is a global crisis and not a problem you can solve by yourself. Concentrated actions need to be global to have an impact."

Lockdown trends such as reduced business travel, remote working, changes in transportation and the decline of non-renewable energy sources could become more permanent as companies seek to reduce their carbon footprints. But as Airmic points out in its 2020 annual survey, even with the unprecedented economic standstill that has arisen due to COVID-19, the world still has over 90% of the decarbonisation it needs to do to keep temperature rises to less than 1.5°C.

Meanwhile, concerns surrounding a post-COVID



recession could mean that strategic and external threats take a back seat in the near term. The cancellation of the COP26 climate summit – due to take place in Scotland later in the year – and the delay of a major research project in the Arctic are signals governments may already be falling behind in coordinating climate action plans.

"Look at what's happened to carbon emissions during COVID-19. The world has been a healthier place in terms of climate, with aircraft not in the skies and fewer cars on the road," observes Graham. "But do I think that's going to last? People are going to want to fly again. It may escalate things like electric transport and the desire to be more environmentally conscious, but my fear is that humans have a short memory."

SEEING SUPPLY CHAIN WEAKNESS

Due to COVID, what may have been a more challenging conversation in the past between risk and insurance managers and their boards may now be altogether more straightforward.

"Risk managers need to speak the same language as the board," says Lanzilotto. "CFOs and CEOs generally don't want to be involved with insurance-related issues, but they want to know about what could cause a loss of enterprise value, whether that is from business disruption and financial loss, or from reputational damage if the company can't demonstrate that it is resilient."

The further lessons the crisis has offered from a supply chain vulnerability perspective are a prime example of this. As was the case with the Thai floods of 2011, the abrupt closure of the Chinese economy during the COVID crisis has again highlighted the disruption that catastrophes can have on the flow of components around the world.

"The extent of a supply chain can be really complex and sometimes organisations can struggle to understand the full extent of their supply chains' risks," says Lanzilotto. "They might understand the first two tiers, but they don't know who sits behind them. Supply chains are actually a matrix and an event that hits a lot of companies, like a natural catastrophe, can expose some companies to a very nasty surprise."

"RESILIENCE IS ABOUT BEING ABLE TO SEE AROUND CORNERS AND ANTICIPATE WHAT MIGHT HAPPEN. AND THEN HAVING THE ABILITY TO MOVE QUICKLY TO ADAPT TO THAT CHANGE."

Partner, Clyde & Co
Nigel Brook

A TECH-ENABLED TRANSITION

There may be an increasing move to 'onshoring' supply chains in the future in order to avoid using suppliers in countries that are highly exposed to natural perils. This could further encourage the development of the 'new economy', one enabled by technology, robotics and sustainable power sources.

It is important that risk managers consider both the physical and transition risks arising from climate change and the transition to a zero-carbon economy. The ability to scan the horizon, anticipate how the global economy is likely to change in the face of the climate threat, and adapt business models accordingly, is a big part of what makes an organisation resilient, believes Clyde & Co partner Nigel Brook.

"Resilience is about being nimble; being able to see further ahead or around corners and anticipate what might happen. And then having the ability to move quickly to adapt to that change. I suspect that's going to become a very valuable commodity in the 2020s."

The speed and ways in which companies will need to change may be far more radical and much faster than previously imagined. In fact, it appears some business models are already no longer viable post-COVID. As Canada's Green Party leader Elizabeth May told Reuters in May: "Oil is dead." No business wants to be the Kodak or Blockbuster of this new era.

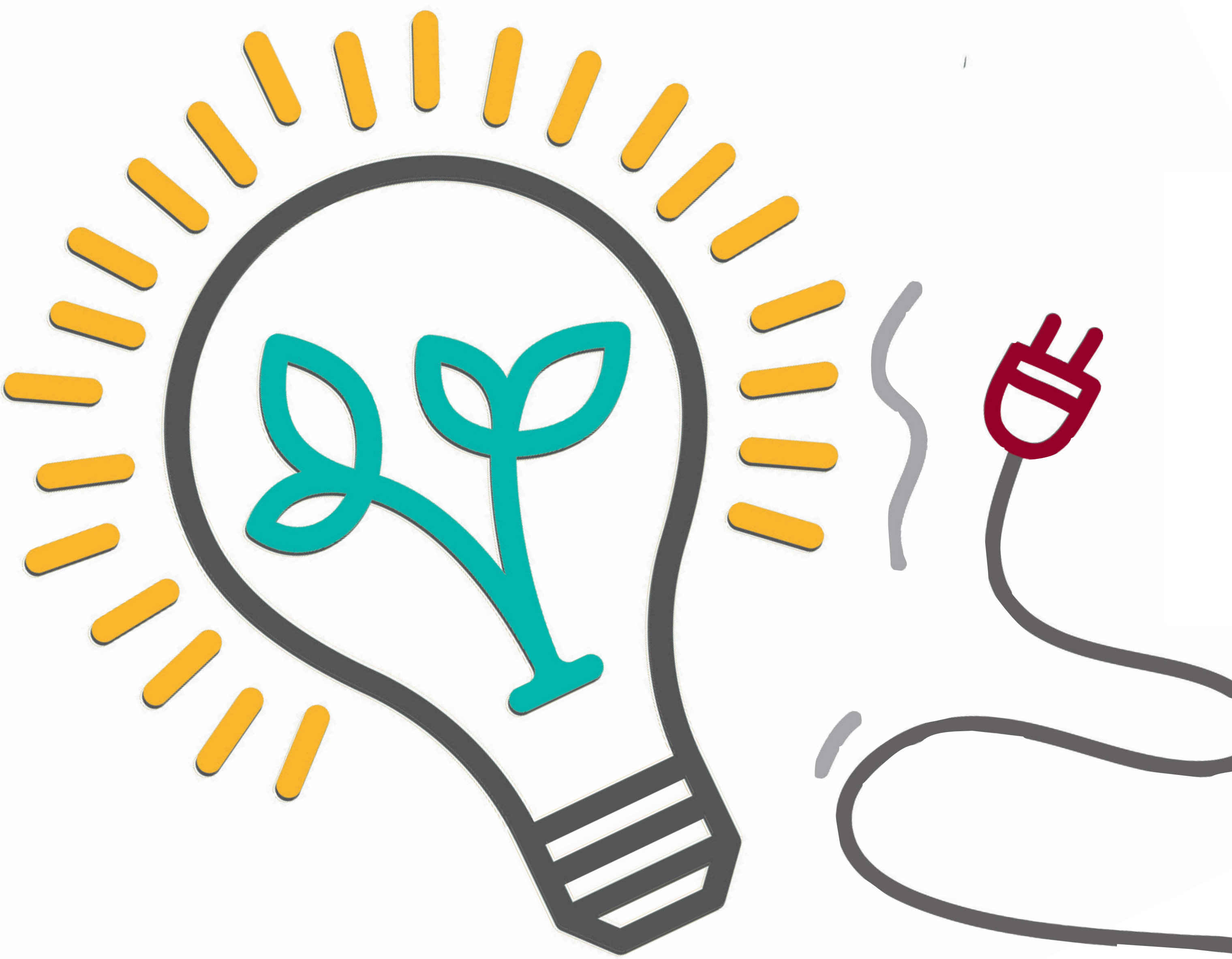
"Without understating the physical risks, but acknowledging that they are perhaps a little bit easier to understand – from a business perspective it could be that transition risk has a more destabilising effect over the next five to ten years," says Brook. "What's going on is still pretty poorly understood."

"The price of solar has fallen by a factor of five in the last five years, for instance, and its now price-competitive with fossil fuels. So it will soon be cheaper in some parts of the world to close down an existing coal or even a gas plant and build a solar plant next door."

BRAND BUSTING

With mounting pressure from consumers, shareholders and regulators, it is imperative organisations understand the implications of climate inaction on their brand and reputation. Reporting requirements outlined by the Task Force on Climate-related Financial Disclosures provide a gold standard roadmap, says Brook. He thinks such disclosures are likely to become mandatory in the future.

"Governance is a really important thing," he says. "Are companies horizon scanning? It's about developing a deep understanding of climate risk, asking 'where is the risk in your business?' and identifying what forms it takes. It isn't just physical and transition risk, it's a reputational risk. So taking action on climate change really matters." **SR**



Seeing the light yet?

Addressing climate change is not just about saving the world, it could save your business. Our exclusive *StrategicRISK* survey discovers that boards could finally be switched on to this risk, but true enlightenment may still be a way off.

Risk managers say their businesses are making important strides when it comes to measuring and monitoring the impact of climate change on their business, but concede there is still a long way to go. This is according to research conducted by *StrategicRISK* in June 2020.

Half of those surveyed said their organisation's approach to climate change was 'improving', with a further 23% describing the approach as 'mature'. Moreover, 73% said their board was engaged with climate change, suggesting companies and their senior management are taking the threat seriously.

'Reputational concerns' was the most common driver for organisations' engaged approach to climate change risk. Fifty-nine percent of risk managers said their company is concerned that lack of action around climate change, and how climate-related risks and opportunities would impact the business going forward, could have a detrimental impact on their brand and reputation.

Nearly half cited environmental, social and corporate governance concerns and corporate social responsibility duties as a key driver behind their organisation's approach. Other reasons climate change is rising up the agenda are concerns around supply chain disruption, a greater awareness of extreme weather events and greater regulation and reporting requirements.

A fifth of respondents said their company had experienced losses that could be attributed to climate change in the last five years. Of these, a quarter had experienced the losses directly, while three-quarters had seen the impact of extreme weather as a result of disruption within their broader supply chain.

PHYSICAL AND TRANSITION RISKS

More than half of respondents (55%) said their organisation was looking at both the physical and transitional risks arising from climate change. This includes the impact of extreme weather events on their business continuity, as well as the risks and opportunities arising from the transition to a low carbon economy.

The internal controller of a financial services company said "climate-related scenarios can be the cause of the lack of availability of physical assets and resources, as well as human resources. These aspects are normally taken into account when defining the possible vulnerabilities of an organisations (the business continuity plan). They can also be considered as real scenarios, during impacts and frequencies assessment."

For risk managers in certain sectors, there is a clear opportunity arising from the shift and how this will impact business models. The risk director of an engineering company noted that as the firm's main business is in renewable energy, "climate change is more than a concern. It is our main business and part of our strategy is to reduce our CO_2 footprint".

THE COVID EFFECT

At a company level, the COVID crisis is not expected to divert too much attention away from climate and

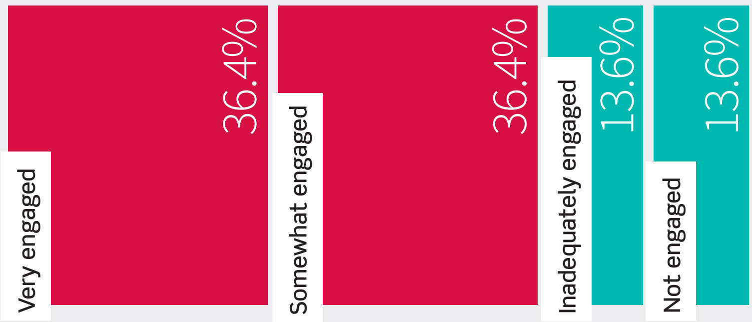
IN THE FUTURE Risk management will be embedded within the ERM approach within the next six months.

Head of risk and insurance at a tech company

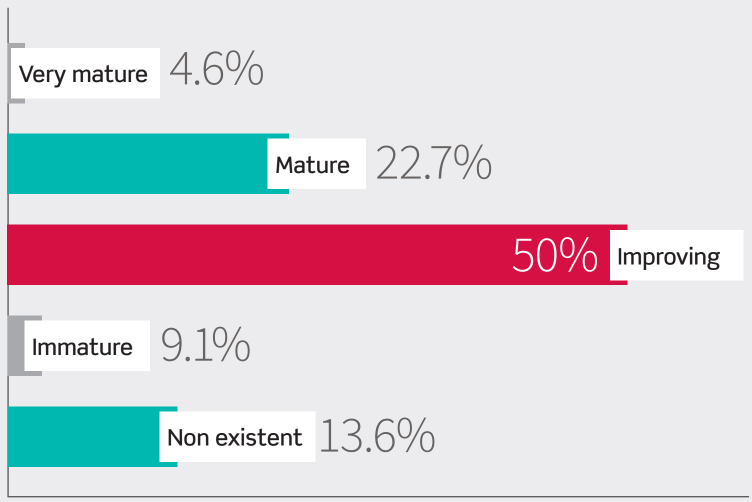
A CLEAR TARGET Sustainability is one of the targets to achieve and promote; business continuity planning of extreme weather has been developed.

Head of internal audit, education academy

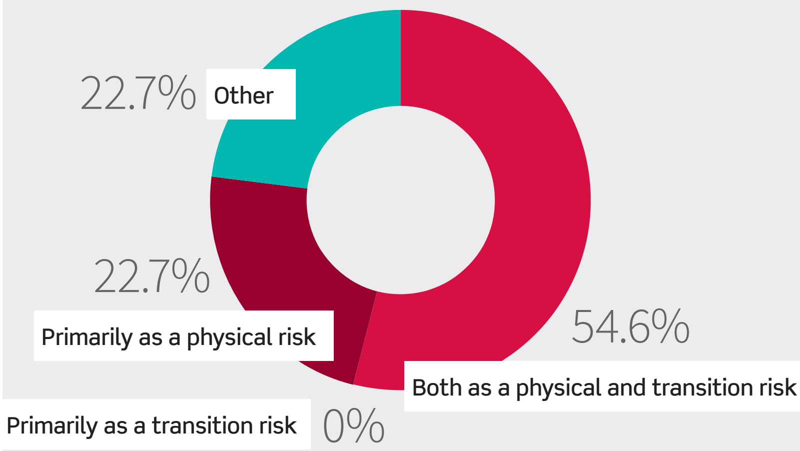
HOW ENGAGED IS YOUR BOARD AND EXECUTIVE MANAGEMENT WITH CLIMATE CHANGE?



HOW WOULD YOU DESCRIBE YOUR ORGANISATION'S APPROACH TO MEASURING AND MONITORING THE POTENTIAL IMPACT OF CLIMATE CHANGE?



HOW DOES YOUR ORGANISATION TREAT CLIMATE CHANGE FROM A RISK PERSPECTIVE?



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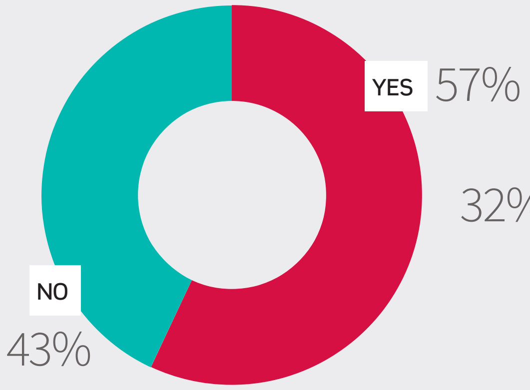
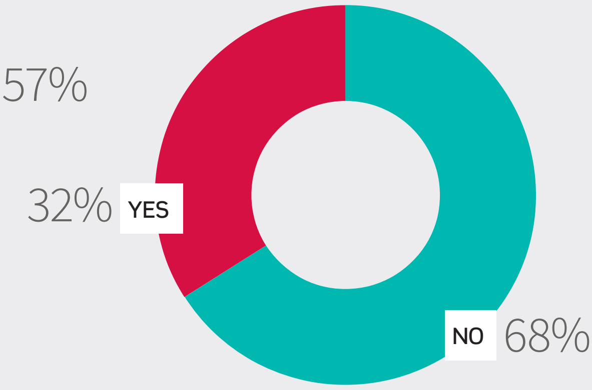
ARE MORE NEAR-TERM CHALLENGES, SUCH AS THE **COVID-19 PANDEMIC** AND **RECESSION**, DIVERTING ATTENTION AWAY FROM CLIMATE AND SUSTAINABILITY RISK?

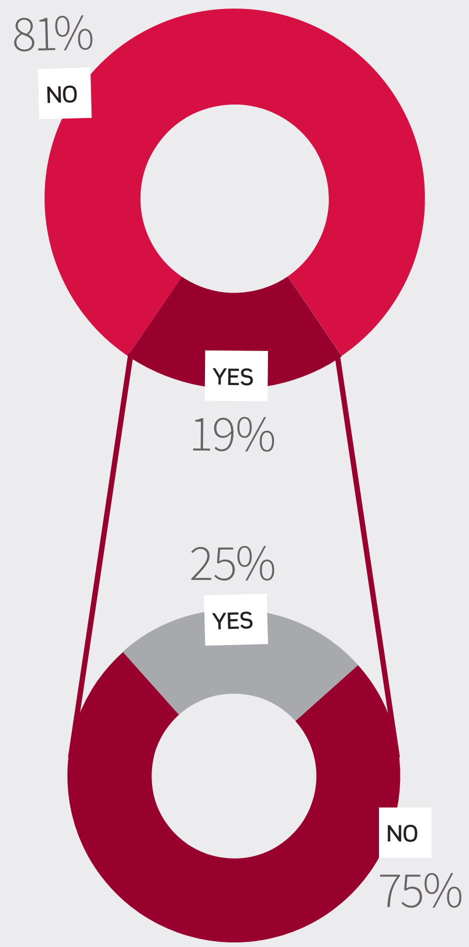


AT A **GOVERNMENT** LEVEL



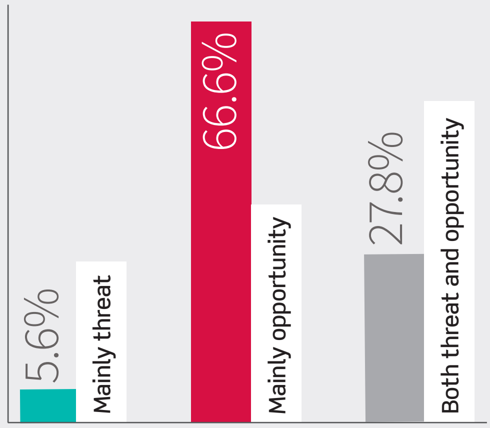
AT A **COMPANY** LEVEL

HAS YOUR ORGANISATION SEEN **LOSSES IN THE LAST 5 YEARS** THAT COULD BE ATTRIBUTED TO CLIMATE CHANGE?

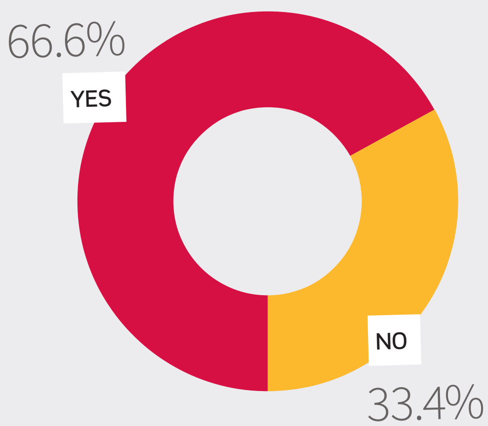


IF YOU ANSWERED YES, WERE THE LOSSES **EXPERIENCED DIRECTLY** BY YOUR ORGANISATION?

IS THE TRANSITION TO A **LOW CARBON ECONOMY** MAINLY A THREAT OR OPPORTUNITY FOR YOUR BUSINESS?



IS YOUR ORGANISATION PLANNING ON LEVERAGING SOME OF THE **CHANGED BEHAVIOURS DURING LOCKDOWN** (SUCH AS REMOTE WORKING) AS PART OF ITS CLIMATE CHANGE STRATEGY?

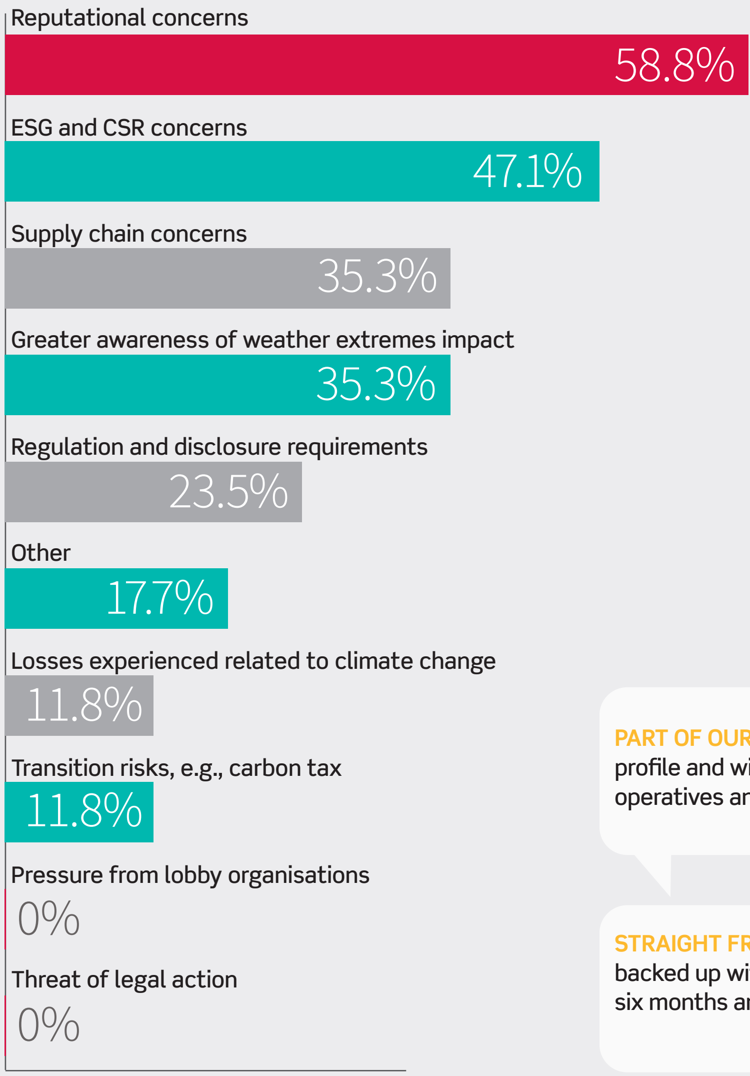


A WAY TO GO Climate change is considered when discussing certain management issues, but it is not really embedded into daily operations for all employees.
Senior risk analyst, financial services organisation

IN TALKS Discussion has occurred regarding the inclusion of climate change in reporting.
Senior project officer, customer services, public sector company

FULLY INTEGRATED Climate change risks are an integral part of the ERM approach.
Risk management consultant

WHICH OF THE FOLLOWING ARE DRIVING YOUR ORGANISATION'S APPROACH TO CLIMATE CHANGE RISK?



sustainability risk, according to 57% of respondents. This is because the pandemic is "short term and operational" while the climate crisis is "long term and strategic", according to one risk consultant.

Respondents did, however, acknowledge the significant pressures many of their organisations are under during the current crisis. "Getting back to operations and restoring a pre-COVID level of performance is a huge challenge," said one survey participant.

"For the last few months, attention has been on navigating the current challenges," added another. "However, I expect focus on climate and sustainability risk to ramp up over the next six months."

Distraction in the face of a global crisis is even more of a concern at a government and policymaking level, according to over two-thirds of survey respondents (68%). With governments fighting to get the level of infection under control, issues such as climate and sustainability will inevitably a back seat in the short to medium term, thought some.

"The immediate pressure of saving lives and ensuring livelihoods for all is indeed a big distraction," said one risk management consultant.

"In our opinion, COVID should have been no more than a major event and that is how we have treated it in our ranks," added the director of an energy consultancy. "Unfortunately, many others were not prepared and we have had to adapt quickly to their failures."

At the same time, respondents acknowledged that the coronavirus pandemic – a low-frequency, high-impact event that had not been considered an immediate concern by many risk managers and their boards – had further stressed the importance of managing climate and sustainability risk. This could have a positive impact going forward and actually assist risk managers in retaining board-level attention.

Two-thirds of respondents said their organisation was planning on leveraging some of the lockdown behaviours, such as remote working and online meetings (creating a reduced property footprint) and less frequent business travel, in the longer term, as part of their climate change strategy. While it is still early days, with the aftermath of the COVID crisis far from over for most businesses, some already see these changes as an opportunity to improve efficiency and save on cost, as well as reduce carbon footprint. **SR**

PART OF OUR ETHOS Climate change-related risk is high on our profile and within our policy and company ethos. As such, all operatives and agents sign up to it when they engage with us.
Director of an energy consultancy

STRAIGHT FROM THE TOP We have a clear policy at top level, backed up with targets and programmes. These are reviewed every six months and updated.
Executive director of a management consultancy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FORWARD
Speeding up the Customer Experience.
Advancing Corporate Insurance Together.
F9
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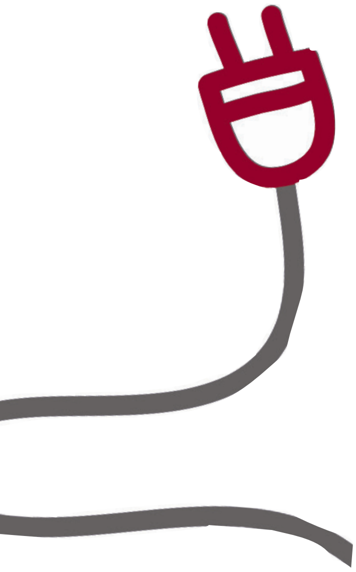
Can we ensure insurability?

Global warming is just one factor provoking the rise in natural disasters. If we want to avoid 'no coverage' regions, we must invest in risk mitigation.



Economic losses from natural and man-made disasters in 2019 were $146bn in 2019, according to Swiss Re sigma, down from $176bn in 2018. But just $60bn of the losses were covered by insurance, pointing to a 'protection gap' of exposures.

The Swiss Re Institute expects global warming will cause a growing intensity and frequency of weather events in the future, but also sees more uncertainty in their assessment of those events. Hurricanes Harvey, Irma and Maria caused an estimated $92bn in insured losses, making 2017 the second costliest North Atlantic hurricane season. "The North Atlantic seems to remain in an active phase of hurricane activity, irrespective of climate change influences," sigma states.

While storms are not caused by one factor alone, "some of the characteristics observed in HIM are those predicted to occur more frequently in a warmer world". It notes the high level of rainfall over Houston and hurricane intensification. Other trends, like sea level rise and urbanisation, are contributing to growing exposures, particularly in 'peak zone' regions, such as coastlines.

"Looking at the evolving risk landscape, it is clear climate change is not the only driver," says Martin Bertogg, head of catastrophe perils at Swiss Re Institute. "Urbanisation is one trend and globally, we see a migration of people to the coast. We see other risk factors developing at quite some magnitude and pace, and as a corporation that's our challenge. To maintain offering our risk transfer product in a sustainable way when faced with a risk that is accelerating."

Going forward, insurability is one issue, believes Bertogg. Ultimately, some regions may be considered 'no go' areas because the risk is too high for re/insurance companies to take on. Or it is not economically viable for companies to locate operations there. "It won't happen immediately, but at some point too much premium will have to be paid at a specific location to make risk transfer a reasonable option," says Bertogg. "Insurance cannot cope with 'chronic risk'... something that is just persistently there. So if sea level rises by half a metre, that's not something we can just address with insurance."

This is where risk mitigation and investment in flood defences, sea walls, more robust architecture and stronger infrastructure may hold the answer. In high-income, flood-prone countries, such as the Netherlands, there is sustained investment in a sophisticated system of flood barriers and the construction of amphibious buildings, for instance.

"Some form of risk mitigation and precaution measures, particularly against chronic risks such as the persistence of flooding for example, will occur," says Bertogg. "And this will help to maintain insurability for acute risk, i.e., natural catastrophes." **SR**

We see the hazards first

EXPERT VIEW While more extreme, more frequent weather events are on the horizon, the insight from insurers makes it possible to build real resilience against lasting damage, says FM Global's Katherine Klosowski.

One of the mantras at FM Global is that the majority of all property loss is preventable. Many businesses believe that natural hazard events are inevitable, and while it is true that an event itself might be inevitable, the damage and loss arising from it is not. Oftentimes, the damage is a man-made loss, based on whether or not we take action to mitigate the impact of that event.

We had a client with a facility near the Po River in northern Italy, and we suspected they were exposed to flood. The facility was located 5km from the river and they were struggling to see how a flood could impact them. FM Global did research with a local hydrological consultant to model a flood event, which was able to identify not only that the factory was within the flood footprint, but could predict how deep the water was likely to get. By sharing that insight with the client, they understood the risk from a property damage and business interruption perspective, and were able to talk to senior executives about funding for risk improvement.

PREPARING FOR ADVERSITY

As the physical impacts of climate change begin to be felt, there is an important role for the insurance industry here. It is not just about offering risk transfer solutions, but also about sharing insights into hazards and vulnerability. This can help organisations prepare for and mitigate their exposures.

More than three in four CEOs and CFOs at the largest companies admit their firms are not fully prepared for the adverse financial impact of a changing climate. This needs to improve, and the tripartite relationship between risk manager, insurer and broker is a good place to start.

As a global insurance company, we see losses – e.g., where floods happen, how the water damages businesses, and how it disrupts supply chains. By sharing that information with clients, they understand the risks better, and whether there are immediate or longer-term exposures that are likely to unfold as the climate changes. By coming up with solutions to prevent damage from occurring, we offer considerable support.

This is where insurance companies are really driving the conversation with organisations on how to protect against the inevitability of more extreme and unpredictable natural perils in the future. **SR**

Katherine Klosowski is vice-president and manager, natural hazards and structures, FM Global.

"AS THE IMPACTS OF CLIMATE CHANGE BEGIN TO BE FELT, IT IS ABOUT SHARING INSIGHTS INTO VULNERABILITIES."

Vice-president and manager, natural hazards and structures, FM Global
Katherine Klosowski

Insurers pushing for change

When it comes to the business risks created by climate change, re/insurers are clued up. It's no wonder the sector is so focused on tackling the issue, says Martin Bertogg of the Swiss Re Institute.

The re/insurance industry is at the forefront of driving the climate change agenda. There are three key reasons insurers and reinsurers are so active in directing things forward and helping coordinate a fresh approach to climate change.

1 WE KNOW NATURAL CATASTROPHES WELL

The industry is covering many of the losses emanating from natural perils and these losses are on an upwards trend, both from a claims and an economic loss potential. Granted there is still a 'protection gap', with many regions of the world uninsured for catastrophe risk, and this is an opportunity for the industry to address the gap and change its approach to underwriting as catastrophic perils become more intense and we experience more weather extremes.

After 12 years of relatively benign catastrophe experience, we witnessed three successive years of heightened loss activity in 2017, 2018 and 2019, with major hurricanes, typhoons, wildfires and floods among the hazards driving devastation and impacting insurers and reinsurers from a loss perspective. Looking at these physical risks from a climate change perspective, none of them is marked explicitly as a 'climate change' event. Climate change makes some natural catastrophes, in their occurrence and in their severity characteristics, more likely to happen.

"PUBLIC PERCEPTION IS SHIFTING AND CLIMATE CHANGE IS NOT AN ISSUE ANY ORGANISATION CAN AFFORD TO IGNORE."

Head of catastrophe perils, Swiss Re Institute
Martin Bertogg

2 WE SEE THE TRANSITION RISK

This second reason involves the transition to a net-zero carbon economy and how it impacts our business models, when considering most, if not all, insurance companies as managers of large asset portfolios. In many ways, this transition risk, impairing the value of some assets, is happening at a much faster pace than physical climate change risks, likely accelerated by COVID-19.

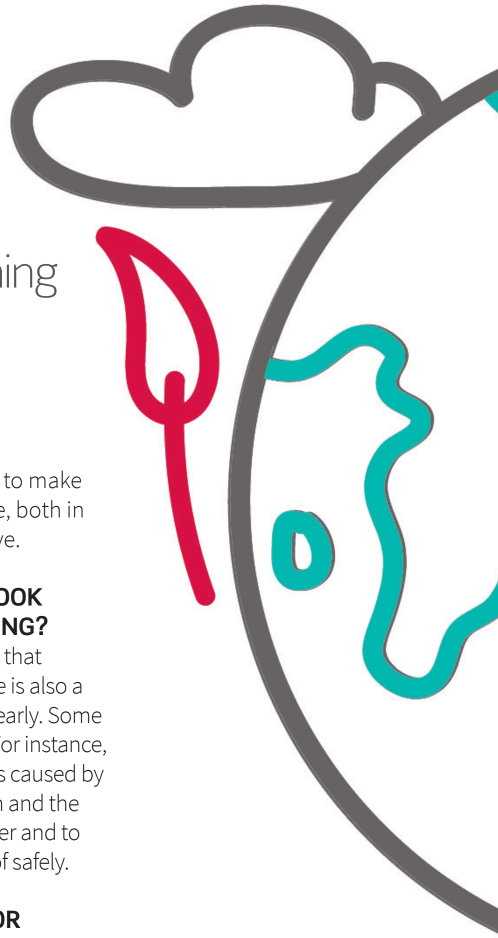
As a large asset manager, Swiss Re carefully considers its investment portfolio's ESG credentials. Recently, the business has pledged to stop covering the most carbon-intensive oil and gas companies, where the same step for asset investments had been made already a few years ago. Such steps are important from a transition risk standpoint, but also as we think about our role as citizens. Our staff want to work for a company built on sustainability. Public perception is shifting and climate change risk as an important contributor to sustainability is not an issue any organisation can afford to ignore.

3 OUR REGULATORS ARE DEMANDING FOCUS

The insurance industry is heavily regulated and the last few years have seen supervisors increase scrutiny on how the physical risks of climate change could really impact the sector. This further accelerates momentum to address both underwriting and asset positions under the header of sustainability and climate change. **SR**

Martin Bertogg is head of catastrophe perils at the Swiss Re Institute.

Keeping the flow



Thames Water's Richard Hoult discusses horizon scanning over the next 80 years and the challenges of resource scarcity as climate extremes become more common.

HOW DOES THAMES WATER APPROACH CLIMATE CHANGE FROM A RISK PERSPECTIVE?

The physical side of it is a key issue for us in terms of more intense rainfall, which causes more flooding of the sewer networks. We have a lot of water and waste treatment sites near rivers so the more extreme weather we have the more those are going to get flooded. And that has a knock on impact on customers.

The 'Beast from the East' in 2018 was a challenge from a water perspective. We went from freezing pipes to a quick thaw, which led to a rapid loss of water from burst pipes and lots of customers without water. Many water companies in other regions also couldn't fix the pipes quickly enough. We believe that situation could happen more often with climate change going forward.

We're focusing a lot more on resilience. Being in the water industry it's about being resilient to events but also shocks like COVID-19. How can we operate as a business and deliver a service no matter what happens? We've learnt a lot from events like the Beast from the East and Brexit, so when COVID-19 came along, the same governance structure was put in place and the same people were up to speed from day one. Yes, it's bigger than anything we've seen before but it actually worked and showed we are fairly resilient as a business.

SO IS RESILIENCE PART OF THE CONVERSATION AT A SENIOR LEVEL WITHIN THE COMPANY?

Yes. I had an email exchange this morning with the executive chairman around how to embed risk more in our language as a business. He suggested we replace the word 'risk' with 'resilience' – our people seem to understand the word better. People are starting to use that word a lot more than risk. So we're thinking that's how we can get the message over to the business most effectively – by taking more of a resilience lens. This is especially true when it comes to the big strategic challenges like climate change.

HOW IS THE COMPANY PREPARING FOR THE TRANSITION TO A ZERO CARBON ECONOMY?

We have a commitment to achieving net zero carbon emissions from our operations by 2030. Water production and wastewater treatment uses a lot of power - especially our water treatment works and pumping water around London all day and all night long, so energy efficiency is our starting point. Where we have land that isn't currently being used we're putting put in solar panels or wind turbines to make sure we've got a more reliable power source, both in terms of price and from a carbon perspective.

HOW FAR OUT DOES THE COMPANY LOOK WHEN IT COMES TO HORIZON SCANNING?

We have a five-year business plan and we use that timeframe from a reporting perspective. There is also a 10-year viability statement that we produce yearly. Some things that are becoming part of the culture. For instance, we're planning for the impacts to our business caused by increases in the population of Greater London and the Thames Valley. All those people will need water and to have their wastewater treated and disposed of safely.

HOW IS THE COMPANY PREPARING FOR FUTURE POPULATIONS?

We look at projected population growth over the long term. At the moment we're looking out to 2050 and in some cases 2100 and asking ourselves what we need to support the population in 30 and 80 years' time. From a climate change perspective, we will get much hotter summers and we can't, in many cases, take more water from rivers then, because of the environmental impacts.

Looking at new options for water supply, we are not keen to rely more on desalination, at least not using the technology currently available, due to the huge energy demand. Another option is to build a pipeline from parts of the UK that have more water, like some parts of the north of England. But the costs of long-distance pumping are quite heavy and there's the issue that the north may not have sufficient surplus water when it is needed.

The third option – our preference – is to build a big new storage reservoir, taking water from the upper reaches of the Thames when flows are high and storing it. When required, the water would be released back into the river and flow the 75 miles down to London.

WHAT IMPACT DO YOU ANTICIPATE FROM THE COVID CRISIS?

There is the potential for changes in working practices to lessen the need to commute on public transport. But this could only be a temporary phenomenon, so for now we are modelling scenarios and assessing risks. But whatever happens we will adapt and invest accordingly. Within the water industry, there's always a strong lens on the future and making sure our service continues to be resilient. **SR**

"WE WILL ADAPT AND INVEST. WITHIN THE WATER INDUSTRY, THERE'S ALWAYS A LENS ON THE FUTURE."

Head of risk, audit and assurance, Thames Water
Richard Hoult

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